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# A MODEL OF INTERNET MUSIC PIRACY: FOCUSING ON THE EXCHANGE MODE

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## Abstract

*In recent years, as the rapid growth of the Internet, the situation of music piracy on the Internet becomes increasingly serious. Copyrighted music files, in the form of MP3, are being transmitted throughout the Internet by means of exchange mode (e.g. through Napster.com) and unilateral mode (e.g. through MP3.com) everyday. In particular, the exchange mode of Internet music piracy as a form of peer-to-peer electronic commerce is gaining fast acceptance in the user community. Therefore, it is important to understand the factors affecting users intention to pirate music on the Internet through exchange mode. The identification of such factors and their relative importance can help the formulation of more effective strategy for deterring music piracy through the exchange mode on the Internet. This paper develops a research model explaining the behavior of exchange mode Internet music piracy, identifying the relevant antecedent factors and the processes involved. It provides a useful anchoring point for directing further empirical investigations.*

## Introduction

The distribution of copyrighted music track(s) to third parties through the Internet, in order to obtain other copyrighted music track(s) in return, is commonly referred to as exchange mode Internet music piracy. Music piracy has a long history and exists in various forms, but the channel has been shifted to the Internet recently with the rapid growth of the Internet. Last year, the losses due to music piracy on the Internet is more than ten billions US dollars (Das, 2000).

Digitalized music files, in the format of MP3, have the distinctive characteristic of digital goods. According to Gopal and Sanders (2000), digital goods is expensive to produce for the first copy (high-fixed costs) and inexpensive to reproduce and distribute for subsequent copies (very low, approaching zero, variable costs). It exhibits the classic characteristics of a public good in that sharing with others does not reduce the consumption utility of the product. These idiosyncratic traits of software and related digital products have facilitated their illegal distribution worldwide (Gopal and Sanders, 2000).

To tackle the piracy problem, measures such as applying the Association for Computing Machinery codes of conduct to piracy decision-making, and including ethical issues in the curriculum of Information Systems majors have been supported in literature (Anderson et al., 1993). However, the more effective way to tackle piracy is to identify the individual and situational characteristics of people who commit the piracy act (Harrington, 1996). This could lead to an in-depth understanding on why people exchange music files on the Internet. Also, this can facilitate the formulation of more effective means to solve the problem of music piracy. The main objective of this research is to find out and model the factors that affect Internet music piracy behavior through the use of exchange facilitating software such as Napster.

## Exchange Mode Internet Music Piracy

Among the music piracy on the Internet, there are two distribution modes, namely unilateral mode and exchange mode. In the unilateral mode, web masters provide others with illegal music files to download from web sites on the Internet. This mode is unidirectional and almost no interaction exists between providers and receivers of music files.

In exchange mode, all participants share their own music files for others to download. Information about music files that they are willing to share will be collected by an intermediary and added to a centralized database for others to search. A participant will act as a music file provider when others download music files from him or her. On the other hand, the same participant will act as music files receiver when he or she downloads music files from others. With the development of music file exchange facilitating software such as Napster (the intermediary), the daily download volume of tracks are estimated as high as three millions. Since the exchange mode dominates as a distribution mode for online music piracy, this research focuses on the exchange mode Internet music piracy.

## Intention to Pirate

Many researchers have suggested the intention models from social psychology can explain the behavior as well as behavioral intention of individuals. Ajzen (1985, 1989) Theory of Planned Behavior (TPB) is an especially well established intention model that has been proven successful in predicting and explaining behavior across a wide variety of domains (Lin et al., 1999). A number of previous studies concerning traditional software piracy have used the TPB as conceptual model to explain the behavioral intention of individuals. Using the Decomposed TPB (DTPB) (Taylor and Todd, 1995) as basis, this study expands the generalizability of the TPB to exchange mode Internet music piracy.

The concept in TPB is based on the idea that behavioral achievement depends jointly on motivation (intention) and ability (behavioral control) (Ajzen, 1985, 1991). TPB suggests that intention toward behavior influences actual behavior. Moreover, intention to perform a behavior is determined by one attitude, subject norm, and perceived behavioral control. Furthermore, in DTPB the above three antecedent constructs of intention decomposes into multi-dimensional belief constructs to further increase the explanation power of TPB. Based on the above, the following hypotheses are suggested:

- H1: Intention to exchange music on the Internet (EMI) will positively affect individual behavior to EMI.*
- H2: Attitude toward EMI will positively affect individual behavioral intentions to EMI.*
- H3: Subjective norm toward EMI will positively affect individual behavioral intentions to EMI.*
- H4: Perceived behavioral control will positively affect individual behavioral intentions to EMI.*
- H5: Perceived behavioral control will positively affect individual behavior to EMI.*
- H6: Ease of use of the download facilitation program will positively affect individual attitude toward EMI.*
- H7: Perceived usefulness of music files will positively affect individual attitude toward EMI.*
- H8: Personal innovativeness will positively affect individual attitude toward EMI.*
- H9: Peer influence will positively affect the individual subjective norms toward EMI.*

## Perceived Equitable Relationship

Equity Theory describes an individual desire to search for equity or fairness in social exchanges (Glass and Wood, 1996). Equity Theory states that equity (or inequity) is the result of an individual evaluation of his or her inputs and rewards in comparison to another input and rewards (Glass and Wood, 1996). Based on Equity Theory, Glass (1996) explains that people will perform a piracy act and give the pirated products to others in exchange of social benefits. Hence whether a perceived equitable relationship exists between an individual and the owners of copyrighted music is a factor which affects the attitude of an individual and his/her intention to exchange pirated music files on the Internet. Hence hypotheses 10 and 11 are as follows:

- H10: The lack of a perceived equitable relationship between an individual and music copyright owners will positively affect individual behavioral intentions to EMI.*
- H11: The lack of a perceived equitable relationship between an individual and music copyright owners will positively affect individual attitude toward EMI.*

## Perceived Effectiveness of Deterrence

The Deterrence Theory in the criminology context explains the effect of deterrence against one desire to commit a crime. In general, Deterrence Theory focuses on incentives or sanctions against committing a deviant act and the effect of these sanctions on deterring others from committing criminal acts (Blumstein et al., 1978). Since music piracy is an illicit behavior, Deterrence

Theory can help explain the intentions. If a deterrence measure is perceived as effective, it tends to discourage an individual from engaging (or intending to engage) in the behaviors in question. Therefore, hypotheses 12 and 13 are as follows:

*H12: The Perceived Effectiveness of Deterrence will negatively affect individual behavior to EMI.*

*H13: The Perceived Effectiveness of Deterrence will negatively affect individual behavioral intention to EMI.*

### ***Computer Deindividuation***

Deindividuation is a feeling of being estranged or separated from others that can lead to behavior violating established norms of appropriateness (Zimbardo, 1970). Sproull and Kiesler (1991) suggest that anonymous use of computer would easily result in computer deindividuation, and anonymity is one of the characteristics of the Internet. When people interact with computers, one will experience a certain extents of deindividuation (Sproull and Kiesler, 1991). Computer deindividuation tends to weaken the effect of subjective norm through exerting a moderating effect on the relationship between subject norms toward exchanging music on the Internet (EMI) and Intention toward EMI. Hence, hypothesis 14 is as follows:

*H14: Computer deindividuation will moderate the relationship between subjective norm toward EMI and behavioral intention to EMI*

### ***Ethical Decision Making Model***

There are two common Ethical Decision Making Models. Trevino (1986) Interactionist Decision Making Model suggests that a person decision to act ethically or unethically is determined by environmental characteristics. Institutional ethical climate is one such important environmental characteristic, which tends to affect the subjective norms and the attitude of an individual. An institution with a stringent ethical standard (i.e. strong ethical climate) will tend to inhibit an individual from engaging in illicit acts such as piracy. Moreover, the Issues-Contingent Decision Making Model proposed by Jones (1991) states that an individual awareness toward ethical issues will affect an individual ethical judgment and that in turn affect one ethical behavior. Hence, hypotheses 16 to 19 are as follows:

*H16: Awareness of relevant piracy issue is associated with an individual attitude toward EMI.*

*H17: Awareness of relevant piracy issue is associated with an individual subjective norms toward EMI.*

*H18: The strength of Institutional Ethical Climate will negatively affect the individual attitude toward EMI.*

*H19: The strength of Institutional Ethical Climate will negatively affect the individual subjective norms toward EMI.*

### ***Research Methodology***

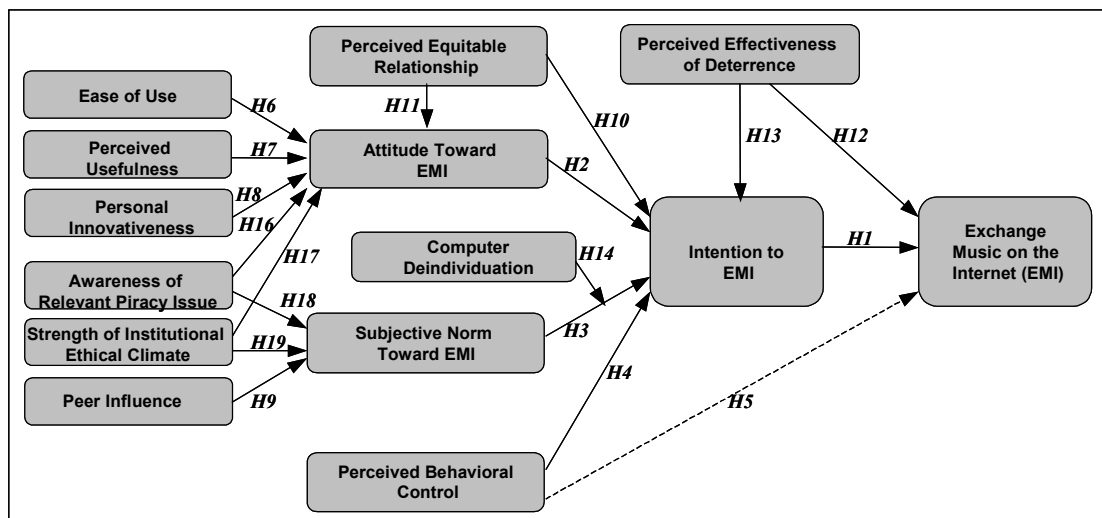
Based on the above hypotheses, the proposed research model (Figure 1) is attached at the end of this paper. For the research methodology, university students with experience in surfing the Internet will be selected in Hong Kong. According to Gopal and Sanders (2000), young college students tend to be more receptive to pirating music on the Internet. Also, online questionnaires will be used to ease the data collection task. We will use multiple items to measure each antecedent of the model. Moreover, a pilot study will be conducted before a full-scale survey on the web. Finally, the model will be tested using structural equation modeling techniques.

### ***Conclusion***

In the current stage, the proposed research model is still in the process of validation. Integrating Equity Theory and Deterrence Theory into the DTPB in order to model exchange mode Internet piracy is new and important as one can formulate more effective strategies to tackle the ever-increasing problem of music piracy on the Internet. It is believed that other than treating piracy as a planned behavior, deterrence and the environment must also have effects on the intention to pirate. Moreover, it is believed that during the process of music files exchange, Equity theory can be applied. Future research may be conducted on finding other factors affecting the intention of exchange mode Internet music piracy. The model provides useful anchoring points for directing further empirical investigations.

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### Figure 1. Model for Exchange Mode Internet Music Piracy